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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,192	07/31/2001	Tracy D. Powers	P5387	3966

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HOGAN & HARTSON LLP
ONE TABOR CENTER, SUITE 1500
1200 SEVENTEEN ST.
DENVER, CO 80202

EXAMINER

REFAI, RAMSEY

ART UNIT	PAPER NUMBER
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2154

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/919,192

Applicant(s)

POWERS ET AL.

Examiner

Ramsey M Refai

Art Unit

2154

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-16 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. Claims 1-16 are presented for examination.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Group 1: Claims 1-12 are drawn to a remote reconfiguration computer system and a method for remotely configuring a data storage system, classified in class 709, subclass 220.
 - II. Group 2: Claims 13-16 are drawn to a method for providing reconfiguration services, classified in class 705, subclass 8.
3. Inventions I and II are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, invention II has separate utility such as in a system lacking the reconfiguration services, particulars. See MPEP § 806.05(d).
4. These inventions are distinct for the reasons given above, and the search required for each Group is different and not co-extensive for examination purpose. For example, the searches for the four inventions would not be co-extensive because these groups would require different searches on PTO's classification class and subclass as following:

(a) the Group I search (claims 1-12) would require use of search **Class 709, subclass 220**.

(b) the Group II search (claims 13-16) would require use of search **Class 705, subclass 8**.

5. A telephone call was made to Ms. Carol Gordon, the applicant's representative, on June 8, 2004 to address a possibility of restriction requirement. The applicant chose an election of Group I, which is, claims 1-12, without traverse.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

7. Claims 13-16 are withdrawn from examination.

8. Claims 1-12 are now presented for examination.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 4, 5, 7-9,10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ofer et al, (U.S. Patent No. 6,209,059) in view of Axberg et al (U.S. Patent No. 6,009,466).

11. As per claim 1, Ofer et al show a reconfiguration computer system comprising:
a storage management host (column 3, lines 13-19) installed in a client data storage system, (abstract, line 10-13) having a first configuration (column 2, lines 22-23) and comprising at least one master storage unit for storing data and providing access to the stored data (column 1, lines 34-35) and one host linked to the master storage unit, and further wherein the storage management host is communicatively linked to and adapted to provide remote access to the master storage unit and the host; ((column 3, lines 13-19) and
a remotely located reconfiguration center communicatively linked to the storage management host configured for receiving a reconfiguration request (abstract, lines 4-6; request from host controllers) for the client data storage system (column 2, lines 27- 37) and for transferring a logical implementation of a second configuration to the client data storage system via the storage management host, wherein the client data storage system is operable to process the logical implementation to configure the data storage system in the second configuration (column 8, lines 1-5 and column 2,lines 27-49)

Ofer et al fails to show the use of a data storage subsystem.

However, Axberg et al show the concept of a storage subsystem (column 1, lines 45-61).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Ofer et al and Axberg et al to create a reconfiguration system using a an alternative storage subsystem because it would provide a great degree of independence from a host computer system when implementing such reconfigurations on data storage systems.

12. As per claim 4, Ofer et al fails to teach the concept of a subsystem and a subsystem, wherein the master storage unit of the second data storage subsystem is a different type of data storage device than the master storage unit of the other data storage subsystem.

13. Axberg et al show the use of a subsystem (column 1, lines 45-61) and that data can be stored in one or more mass data storage devices, such as rotating magnetic disk drives or tapes attached to a single computer system (column 1, lines 13-17 and column 2, lines 28-44). It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to use more than one subsystem in a reconfiguration system and to use a subsystem with two different storage units of different types because it would increase the storage capacity, speed, reliability, and increase cost effectiveness. It would allow for files less frequently used to be moved a slower but less expensive form of storage.

14. As per claim 5 Axberg et al show a computer system wherein the transferred logical implementation includes executables that affect a change in the first configuration selected from

the group consisting of a logical unit number (LUN) size change, cache blocking, establishing hot standby, changing RAID, logically moving the master storage unit or a portion thereof, mainframe device type changing, adding channels, and increasing performance (column 1, lines 20-44) It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Ofer et al and Axberg et al to create a reconfiguration system using a an alternative storage subsystem because it would provide a great degree of independence from a host computer system when implementing such reconfigurations on data storage systems.

15. As per claim 7, it contains similar limitations as claim 1, therefore is rejected under the same rationale.

16. As per claim 8, Ofer et al shows receiving a reconfiguration request for the client data storage system and determining the first configuration, prior to transferring (column 5, lines 28-40).

17. As per claim 9, Ofer et al fails to show a method including identifying a predetermined level of reconfiguration services from a plurality of service level options and creating the logical implementation based on the identified level of reconfiguration services.

18. Axberg et al shows a method for identifying a predetermined level of reconfiguration services from a plurality of service level options and creating the logical implementation based on the identified level of reconfiguration services (column 2, lines 47- column 3, lines 1-22). It

would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Ofer et al and Axberg et al to create a method for reconfiguring data on a storage system by identifying a predetermined level of reconfiguration services and creating the logical implementation based on the identified level of reconfiguration services in order assist a user planning the configuration of devices.

19. As per claim 10, it contains similar limitations as claim 5, therefore is rejected under the same rationale.

20. As per claim 12, Ofer et al show the monitoring of the client data storage system and based on the monitoring, transmitting a recommended reconfiguration for the master storage unit, prior to the transferring (column 2, lines 47- column 3, lines 1-22 and column 16, lines 30-34).

21. Claims 6 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ofer et al (U.S. Patent No. 6,209,059) in view of Axberg et al (U.S. Patent No. 6,009,466) as applied to claim 1 above, and further in view of Wookey (U.S. Patent No. 6,085,244).

22. As per claim 6, Axberg et al show that a reconfiguration computer system can include a modem (column 1, lines 13-14 and column 15 lines 67- column 16 line 3).

23. Ofer et al and Axberg et al fail to show the use of a dialback modem wherein the dialback modem is adapted to respond to a connection initiated from the modem by requesting entry of a

password, to verify an entered password, to upon verification of the password disconnect the connection and initiate a connection to the modem. The secure dial-back modem is configured to limit connection attempts, e.g., permit only two attempts, before automatic disconnect. The connection is then broken. The modem at the monitored system then dials back the service center. It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to use a dialback modem in a reconfiguration system to authenticate a user in order to prevent unauthorized use.

24. As per claim 11, Ofer et al and Axberg et al fail to show a method including remotely verifying and testing the second configuration.

However, Wookey shows a method of remotely performing diagnostic tests during hardware or software configuration (column 2, line 54 – column 3, line 6).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Ofer et al, Axberg et al, and Wookey to create a method for remote reconfiguration and further including remotely verifying and testing configuration because to this step is important to verify that the configurations are suitable.

25. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ofer et al (U.S. Patent No. 6,209,059) in view of Axberg et al (U.S. Patent No. 6,009,466) as applied to claim 1 above, and further in view of Vacon et al (U.S. Patent No. 5,151,895).

26. As per claims 2 and 3, Ofer et al and Axberg et fail to show a computer system, wherein the storage management host is a terminal server configured to provide Ethernet connection to a local area network (LAN) connected to the host and the master storage unit and further configured to provide a serial connection with the master storage unit.

However, Vacon et al show a terminal server device provides connection between terminals which operate asynchronously to transmit data to and receive data from the LAN typically dedicated to a plurality of terminals via serial data lines originating from the terminal server and terminating at respective terminals. The terminal server also provides a node for connection to the LAN. The LAN provides for packet data transmission between the terminal server and the host computer (column 1, lines 24-34).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to combine the teachings of Ofer et al, Axberg et al, and Vacon et al to create a remote reconfiguration system wherein the storage management host is a terminal server that provides Ethernet connection because doing so would help establish a communication between a number of terminals and host computers.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. D'Errico et al (U.S. Patent No. 6,314,503) teach a method and apparatus for managing the placement of data in a storage system to achieve increased system performance. Jantz et al (U.S. Patent No. 6,584,499) teach a method and apparatus performing mass operations on a plurality of managed devices on a network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramsey M Refai whose telephone number is (703) 605-4361. The examiner can normally be reached on M-F 8:30 - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703) 305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ramsey M Refai
Examiner
Art Unit 2154

RMR
June 9, 2004



JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100